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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,967	12/09/2003	Masahiko Ogawa	CFA00022US	6424

7590 03/07/2007

Canon U.S.A. Inc.
Intellectual Property Department
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Irvine, CA 92618-3731

EXAMINER	
PRAKASAM, RAMYA G	
ART UNIT	PAPER NUMBER
3651	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/731,967	OGAWA ET AL.	
	Examiner	Art Unit	
	Ramya G. Prakasam	3651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed on 12/8/2006 has been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Claim Rejections - 35 USC § 112

3. Applicant's arguments, see page filed pages 1 and 2 of Applicant's remarks, with respect to the 35 USC 112 rejection of Claim 10, have been fully considered and are persuasive. The 112 rejection of Claim 10 has been withdrawn.

Claim Rejections - 35 USC § 103

4. Claims 1-3, 5-7, and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Shimomura (U.S. Patent No. 5,838,596) in view of May (U.S. Patent No. 6,549,745).

Shimomura discloses a method for simulating the behavior of a flexible medium (See Column 6, lines 52-61) which is conveyed along a conveying path (See Figure 2) constructed of a pair of conveyor rollers (11), the method comprising the steps of:

- Performing a simulation such that a conveying force corresponding to the difference between the second peripheral speed and a speed of the flexible medium is applied to the flexible medium when the flexible medium reaches the non-contact region of the conveyor rollers (See Column 10, lines 32-58), such that the flexible medium is conveyed at the first peripheral speed when the flexible medium reaches the contact region of the conveyor rollers (See Column 10, lines 51-58).

Shimomura further discloses an apparatus (10) which simulates the behavior of a flexible medium (See Column 6, lines 52-61) which is conveyed along a conveying path (See Figure 2) constructed of a pair of conveyor rollers (11), the apparatus comprising:

- A processor (20) which performs a simulation under a condition that a conveying force corresponding to the difference between the second peripheral speed and a moving speed of the flexible medium is applied to the flexible medium when the flexible medium reaches the non-contact region of the conveyor rollers (See Column 10, lines 32-58) and a condition that the flexible medium is conveyed at the first peripheral speed when the flexible medium reaches the contact region of the conveyor rollers (See Column 10, lines 51-58).

Shimomura further discloses a storage medium (20) which stores a program for executing a method for simulating the behavior of a flexible medium (See Column 6, lines 52-61) which is conveyed along a conveying path (See Figure 2) constructed of a pair of conveyor rollers (11), the program comprising the steps of:

- Performing a simulation under a condition that a conveying force corresponding to the difference between the second peripheral speed and a moving speed of the flexible medium is applied to the flexible medium (See Column 10, lines 32-58) when the flexible medium reaches the non-contact region of the conveyor rollers and a condition that the flexible medium is conveyed at the first peripheral speed when the flexible medium reaches the contact region of the conveyor rollers (See Column 10, lines 51-58).

Shimomura, however, does not discloses a method, program, and storage medium:

- A method, program and storage medium:
  - Dividing the surfaces of the conveyor rollers into a contact region and a non-contact region and setting a first peripheral speed and a second peripheral speed for the contact region and the non-contact region, respectively, the first and the second peripheral speeds being different from each other;
  - Wherein the pair of conveyor rollers consists of a drive roller and a driven roller and the second peripheral speed is set individually for each of the drive roller and the driven roller.
  - Wherein the distance between the axes of the conveyor rollers is calculated on the basis of a nip width which is set in advance.
- An apparatus comprising:
  - A memory which stores a first peripheral speed and a second peripheral speed, the first peripheral speed and the second peripheral speed being different from each other and being set respectively for a contact region and a non-contact region into which the surfaces of the conveyor rollers are divided; and,
  - Wherein the pair of conveyor rollers consists of a drive roller and a driven roller and the memory stores the second peripheral speed for each of the drive roller and the driven roller individually.
  - Wherein the processor calculates the distance between the axes of the conveyor rollers on the basis of a nip width which is set in advance.

May discloses:

- A method, program and storage medium:

- Dividing the surfaces of the conveyor rollers into a contact region and a non-contact region and setting a first peripheral speed and a second peripheral speed for the contact region and the non-contact region, respectively, the first and the second peripheral speeds being different from each other (See Column 10, lines 31-43) for the purpose of accounting for the frictional drive in the nip (See Column 10, lines 35-36);
- Wherein the pair of conveyor rollers consists of a drive roller (21) and a driven roller (11) and the second peripheral speed is set individually for each of the drive roller and the driven roller (See Figure 3a and Column 10, lines 29-31) for the purpose of providing a nonslip condition of engagement in nip (See Column 10, lines 30-31).
- Wherein the distance between the axes of the conveyor rollers is calculated on the basis of a nip width which is set in advance (See Column 10, lines 49-55) for the purpose of increasing or decreasing engagement with the nip (See Column 10, lines 54-55).

- An apparatus comprising:
  - A memory (See Column 10, lines 40-45 "EAD") which stores a first peripheral speed and a second peripheral speed, the first peripheral speed and the second peripheral speed being different from each other and being set respectively for a contact region and a non-contact region into which the surfaces of the conveyor rollers are divided (See Column 10, lines 31-43) for

the purpose of accounting for the frictional drive in the nip (See Column 10, lines 35-36); and,

- Wherein the pair of conveyor rollers consists of a drive roller (21) and a driven roller (11) and the memory stores the second peripheral speed for each of the drive roller and the driven roller individually (See Column 10, lines 29-31) for the purpose of providing a nonslip condition of engagement in nip (See Column 10, lines 30-31).
- Wherein the processor calculates the distance between the axes of the conveyor rollers on the basis of a nip width which is set in advance (See Column 10, lines 49-55) for the purpose of increasing or decreasing engagement with the nip (See Column 10, lines 54-55).

It would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify Shimomura by utilizing:

- A method, program and storage medium:
  - Dividing the surfaces of the conveyor rollers into a contact region and a non-contact region and setting a first peripheral speed and a second peripheral speed for the contact region and the non-contact region, respectively, the first and the second peripheral speeds being different from each other for the purpose of accounting for the frictional drive in the nip;
  - Wherein the pair of conveyor rollers consists of a drive roller and a driven roller and the second peripheral speed is set individually for each of the drive

roller and the driven roller for the purpose of providing a nonslip condition of engagement in nip.

- Wherein the distance between the axes of the conveyor rollers is calculated on the basis of a nip width which is set in advance for the purpose of increasing or decreasing engagement with the nip.

- An apparatus comprising:
  - A memory which stores a first peripheral speed and a second peripheral speed, the first peripheral speed and the second peripheral speed being different from each other and being set respectively for a contact region and a non-contact region into which the surfaces of the conveyor rollers are divided for the purpose of accounting for the frictional drive in the nip;
  - Wherein the pair of conveyor rollers consists of a drive roller and a driven roller and the memory stores the second peripheral speed for each of the drive roller and the driven roller individually for the purpose of providing a nonslip condition of engagement in nip.
  - Wherein the processor calculates the distance between the axes of the conveyor rollers on the basis of a nip width which is set in advance for the purpose of increasing or decreasing engagement with the nip.

5. Claims 4, 8, and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimomura in view of May and further in view of Iijima (U.S. Patent Application Publication No. 2002/0176722).

Shimomura in view of May discloses all claimed limitations (see above), except for:

- A method further comprising the steps of:
  - Calculating a load torque applied to the conveyor rollers on the basis of a contact force generated when the flexible medium is in contact with a conveyor guide for conveying the flexible medium; and
  - Issuing a warning when the calculated load torque is greater than a driving torque of the conveyor rollers, the driving torque being set in advance.
- An apparatus, wherein the processor calculates a load torque applied to the conveyor rollers on the basis of a contact force generated when the flexible medium is in contact with a conveyor guide for conveying the flexible medium and issues a warning when the calculated load torque is greater than a driving torque of the conveyor rollers, the driving torque being set in advance.

Iijima discloses:

- A method further comprising the steps of:
  - Calculating a load torque applied to the conveyor rollers on the basis of a contact force generated when the flexible medium is in contact with a conveyor guide for conveying the flexible medium (See Paragraph 0026) for the purpose of improving the limit value of the load torque (See Paragraph 0026); and
  - Issuing a warning when the calculated load torque is greater than a driving torque of the conveyor rollers, the driving torque being set in advance (See Paragraph 0024) for the purpose of accommodating the increase in the normal slip in the conveyor (See Paragraph 0024).

- An apparatus, wherein the processor calculates a load torque applied to the conveyor rollers on the basis of a contact force generated when the flexible medium is in contact with a conveyor guide for conveying the flexible medium (See Paragraph 0026) and issues a warning when the calculated load torque is greater than a driving torque of the conveyor rollers, the driving torque being set in advance (See Paragraph 0024) for the purpose of improving the limit value of the load torque and accommodating the increase in the normal slip of the conveyor. (See Paragraphs 0024 and 0026).

It would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify Shimomura in view of May by utilizing:

- A method further comprising the steps of:
  - Calculating a load torque applied to the conveyor rollers on the basis of a contact force generated when the flexible medium is in contact with a conveyor guide for conveying the flexible medium for the purpose of improving the limit value of the load torque; and
  - Issuing a warning when the calculated load torque is greater than a driving torque of the conveyor rollers, the driving torque being set in advance for the purpose of accommodating the increase in the normal slip in the conveyor.
- An apparatus, wherein the processor calculates a load torque applied to the conveyor rollers on the basis of a contact force generated when the flexible medium is in contact with a conveyor guide for conveying the flexible medium and issues a warning when the calculated load torque is greater than a driving torque of the

conveyor rollers, the driving torque being set in advance for the purpose of improving the limit value of the load torque and accommodating the increase in the normal slip of the conveyor.

Response to Arguments

6. Applicant's arguments filed on 12/8/2006 with regards to the 103 rejection have been fully considered but they are not persuasive.

7. With regards to applicant's argument that Shimomura does not teach or suggest that the flexible medium is conveyed at athe first peripheral speed when the flexible medium reaches the contact region of the conveyor rollers, regardless of the fact that the real speed is speed, it is still conveyed at a first peripheral speed (the real speed before reaching the contact rollers - See Column 10, lines 37-40). When it reaches the contact region, it is then set to a state, and depending on the state, a target speed is used. The speed that is sensed, which is the real speed before the contact region, is the first peripheral speed of the flexible medium. Therefore, Shimomura does in fact disclose that the flexible medium is conveyed at the first peripheral speed when the flexible medium reaches the contact region of the conveyor rollers.

8. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the speed is set without being sensed by any type of encoders) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

9. For the foregoing reasons, Claims 1-8 and 10-12 stand rejected.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramya G. Prakasam whose telephone number is (571) 272-6011. The examiner can normally be reached on Monday - Thursday, 8:30am-7pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on (571) 272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

3/4/2007
RGP

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SUPERVISORY PATENT EXAMINER